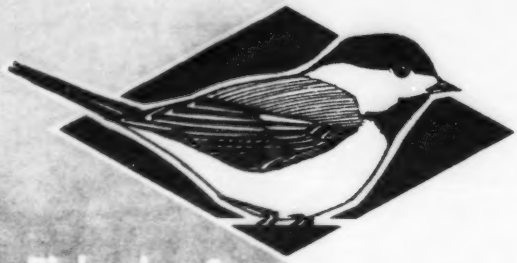
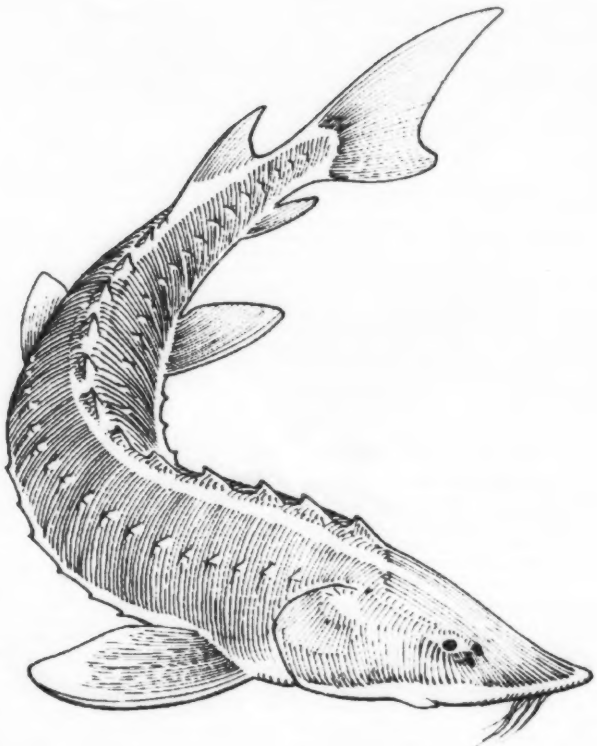


Fisheries & Wildlife Management Division

RESOURCE STATUS AND ASSESSMENT BRANCH

Survey of the Lake Sturgeon (*Acipenser fulvescens*) Fishery on the South Saskatchewan River, Alberta

L.A. Winkel



Alberta Species at Risk Report No. 9

Alberta
SUSTAINABLE RESOURCE DEVELOPMENT

101-07213/

Survey of the Lake Sturgeon (*Acipenser fulvescens*) Fishery on the South Saskatchewan River, Alberta

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DISCLAIMER

The opinions and recommendations expressed are those of the author, and not necessarily those of Alberta Sustainable Resource Development.

EXECUTIVE SUMMARY

The lake sturgeon (*Acipenser fulvescens*) is a truly unique component of Alberta's wildlife. This ancient species is a distinctive looking fish, covered in leathery skin with "armoured" scutes, with a long flat snout and sensory barbles in front of its mouth. Not only can they grow larger than any other fish in Alberta (where the record is 47.7 kg and 154.9 cm long), but they can also live beyond the age of 80.

Due to its large size and the angling challenge that it presents, the sturgeon is a prized sportfish. As a result, overharvesting in the 1940's caused near extinction. Lake sturgeon fishing is currently regulated and requires a special sturgeon fishing licence. The development of hydroelectric facilities in the 1960's has also affected Alberta's sturgeon populations. Dams have fragmented the population, separating it from a range that once included Saskatchewan and Manitoba. In Alberta, lake sturgeon are now confined to two areas; the North Saskatchewan and the South Saskatchewan River systems. While numbers in the South Saskatchewan River have increased since the 1940's, the North Saskatchewan River population has been slow in recovering. The majority of fish in both areas are smaller than those harvested historically.

For the past 33 years, an annual questionnaire has been sent to anglers who purchase a sturgeon licence. The objectives have been to assess lake sturgeon angling activity and harvest. A creel survey was conducted on a portion of the South Saskatchewan River from June to September 2000 in an effort to evaluate the validity of the questionnaire in reflecting the actual status of the lake sturgeon fishery.

The survey found a few similarities with the data from the 1999 questionnaire. Distribution of the angler's residence was similar, as well as the distribution of size of fish caught per location. Differences between the results obtained by the two data collection methods were more common. The proportion of larger fish was higher on the questionnaire then the creel. Anglers provided more and sometimes different detail in the creel. The most notable finding is that 52% of surveyed sturgeon anglers did not possess a lake sturgeon fishing licence. Therefore, a large proportion of the people angling for sturgeon are not being sampled. Clearly, questionnaire data does not accurately reflect the impact of angling upon the sturgeon populations. Unlicenced angling activity must be considered if sturgeon management is to be improved.

1.0 INTRODUCTION

This project assessed the management utility of existing harvest data on lake sturgeon (*Acipenser fulvescens*) populations in Alberta, by means of a creel survey on the South Saskatchewan River. The survey data were compared to data collected from an annual questionnaire sent to all holders of a sturgeon fishing license. [In this report, the term "sturgeon" is used exclusively to denote lake sturgeon (*A. fulvescens*).] A secondary objective of the survey was to assess the accuracy of extrapolating sturgeon weights on the basis of lengths, from relationships established by Haugen (1969). Finally, the present study collected ancillary information concerning the nature and extent of sturgeon angling in the South Saskatchewan River. The study was conducted from June 15 to September 6, 2000.

2.0 STUDY AREA

2.1 General Description

The South Saskatchewan River is a wide Class 1 river located in southern Alberta and Saskatchewan. In Alberta, its major tributaries are the Bow and Oldman rivers. The river flows through an area that is characteristically short grass prairie (Dickinson and Baresco 1996). The majority of the area surrounding the river has natural vegetation, although agriculture and oil and gas development are common. Water levels in the South Saskatchewan River are characterized by a peak in flow during the spring runoff in June and periods of low flow in late summer and mid-winter (Haugen 1969). A secondary minor flow increase usually occurs in late summer due to reduced irrigation (Haugen 1969).

2.2 Description of Specific Sites

The study area is the portion of the South Saskatchewan River which extends from the confluence of the Bow and Oldman Rivers (located 14 km north of the hamlet of Grassy Lake) to the Sandy Point campground (located next to Highway 41, northeast of Medicine Hat). Sturgeon have also been reported in tributaries of the South Saskatchewan River (Haugen 1969). However, levels of sturgeon angling in the tributaries was not considered substantial enough to include them in the present study.

The sites surveyed in the creel census are described below:

2.2.1 The Grand Forks (located at SE 22-11-13 W4M)

This spot marks the confluence of the Bow and Oldman Rivers to form the South Saskatchewan River. The river is wide, flanked by steep cliffs to the north. There are several islands, and the area is heavily wooded with stands of cottonwood (*Populus* sp.) trees (Dickinson and Baresco 1996). Land use to the north consists of grazing on native prairie, with minimal cultivation. The river valley and uplands lying south of the Grand

Forks are used for agricultural and oil and gas developments. Secondary gravel roads access this site. More anglers were checked at this location than at any other site included on the survey.

2.2.2 Rattlesnake Hole (located at NW 21-12-8 W4M)

This site is accessed via privately owned land directly north of the Golden Sheaf Campground on Rattlesnake Reservoir. Permission is required to enter the site. This spot has a wide terrace south of the river, with steep cliffs to the north. Land use includes grazing and oil and gas developments on both sides of the river.

2.2.3 Medicine Hat

The following sites are easily accessible:

Highway bridge (located adjacent to the TransCanada highway bridge within the city limits).

Railway bridge (located in the centre of the city).

Lion's Park and Strathcona Park (adjoining each other along the southern bank of the river in the centre of Medicine Hat).

Police Point Park (covers a sizeable area in a bend of the river where the South Saskatchewan turns northward to flow out of the city). Angling primarily occurs adjacent to the park itself.

2.2.4 Drowning Ford Grazing Lease

Permission for entry is required at all three of the following sites. Access is via dry weather roads with steep grades. In this area, steep ravines and wide terraces characterize the river valley. A cottonwood community mixed with short grass prairie is found at the river's edge. Land use is a mixture of grazing and gas/oil exploration. Access to the river is restricted to the eastern bank, as Canadian Forces Base (CFB) Suffield occupies the western and northern banks.

Bull Pen (located at NW16-15-5 W4M).

Drowning Ford (located at SW27-15-5 W4M).

Koomati (located at NE35-16-5 W4M).

2.2.5 Sandy Point (located at NE28-20-1 W4M, where highway 41 crosses the South Saskatchewan River northeast of Medicine Hat)

This spot is readily accessible from the highway. Moderately high cliffs flank the river, although it is possible to access the river via narrow terraces along the bank. Land use in the area consists of grazing and gravel extraction. All major oil and gas transmission lines for the province of Alberta cross the South Saskatchewan River at this location.

3.0 METHODS

A creel survey form (Appendix 1) was designed, based on the annual questionnaire sent to holders of the sturgeon angling license. Some additional detailed questions about the fishery were also included. Data collected included dates, locations fished, the possession of a current or previous sturgeon licence, residency of the angler and the fish species targeted. Anglers were also asked about their response to the annual sturgeon fishing licence questionnaire. Lengths (nearest cm) and weights
(nearest kg) were obtained for any sturgeon caught or reportedly caught (but not seen by the study personnel). The number of anglers in a party, the angling method (shore or boat), and the fishing technique used (bait or spinner) were also recorded. Frequency of sturgeon angling was categorized as to whether individual anglers fished once a year, once a month, or once a week. All data were intended for comparison to the 2000/2001 angler questionnaire, to determine if the information recorded by anglers in the questionnaire reflects actual harvests. Any comments that anglers had about their perception of the sturgeon fishery were also recorded.

Individual groups of anglers that were interviewed at one location on any given day were assigned an angler party number, to serve as a reference if sturgeon were caught later by the same group. This eliminated the repetition of data collection on subsequent days from the same group of individuals.

Survey sites were selected each day. Sites that were open to public access were checked every day, especially on weekends. Popular sturgeon holes accessed by privately owned land were checked periodically for use. Occupancy of any spot by anglers meant that particular location was revisited on subsequent days. The size of the study area precluded surveying all of the sites during a regular eight-hour working day. As a result, the survey was sometimes confined to locations either east or west of Medicine Hat (including the city), on any given day. Alternatively, particular spots were targeted throughout the study area, regardless of proximity. During peak angling times, an effort was made to survey all of the sites on a particular day. Weather also influenced which spots were surveyed, since mild to moderate rain rendered the roads into privately accessed sites impassable.

The timing of survey work also varied from day to day. In general, the creel survey was conducted from early afternoon until evening, to take advantage of increased angling. On the last day of a weekend, or a long weekend, an earlier time of day was selected in order to locate anglers before their departure. Privately accessed spots (e.g., Rattlesnake Hole) were surveyed late in the evening or at night to monitor any night fishing, since anglers indicated that night fishing was a popular at such locations. The goal of the survey was to contact as many anglers as possible, to maximize the amount of information collected on the fishery.

4.0 RESULTS

During the survey, 55 sturgeon were known to be caught. There were 79 angling parties surveyed, with an average of two anglers per party. Of the 79 parties, 61 (77%) targeted sturgeon at survey time, while 18 (23%) were angling for other fish but did target sturgeon at some point in the year. Ten (13%) of the 79 groups angled for sturgeon weekly, 41 (52%) monthly and 28 (35%) yearly. Thirty-three possessed a sturgeon license in 1999, 20 in 1998 and 40 in neither year. Forty-one (52%) groups were not currently licensed, 38 (48%) were. In the past, 33 of the licenced parties had received a sturgeon questionnaire, while three had not. Twenty-seven stated they had answered the questionnaire and 10 had not. Thirty-five (44%) groups were residents of Calgary, 16 (20%) of Taber, 10 (13%) of Medicine Hat, 15 (19%) from other southern Alberta locations and 3 (4%) from Saskatchewan.

Of the 55 sturgeon caught, 53 (96%) were caught from shore, and two (4%) by boat. All 55 were caught using bait. Fifty-four (98%) were released and one (2%) harvested. Fifteen (27%) were caught in the morning, 16 (29%) in afternoon, 21 (38%) in evening and three (5%) at night. When determining weight, ten (18%) were measured by the angler, 3 (5%) by survey staff and 42 (76%) were extrapolated by staff using the table established by Haugen (1969). For the 55 fish, weight ranged from 0.12 kg to 25.86 kg, while length varied from 30.48 cm to 147.32 cm (Table 1).

Table 1. Number, length and weight of sturgeon caught at each creel survey location, June-September 2000.

Location	Number of sturgeon			Length (cm)		Weight (kg)	
	total	released	harvested	Min	Max	Min	Max
Drowning Ford	1	1	0	106.0	106.6	5.72	5.72
Grand Forks	31	31	0	50.8	142.24	0.41	19.62
Koomati	1	1	0	140.0	140.0	22.68	22.68
Police Point Park	4	4	0	30.48	76.2	0.12	2.26
Railway Bridge	1	1	0	102.87	102.87	10.43	10.43
Rattlesnake Hole	7	7	0	60.96	147.32	1.42	25.86
Sandy Point	8	7	1	40.0	135.26	0.304	7.32
Strathcona	2	2	0	91.44	124.5	11.33	14.97
Total:	**55**	**54**	**1**				

Table 2. Size distribution for sturgeon caught during June-September 2000, as determined by creel survey.

Length (cm)	Average weight (kg)	Number of sturgeon	Percent of total (%)
< 90	4.31	31	56
90-99	6.18	4	7
100-109	8.45	7	13
110-119	11.25	5	9
120-129	14.64	4	7
130-139	18.67	2	4
140-149	23.42	2	4

One-hundred and sixteen anglers fished for a total of 929 hours (Table 3 below). The calculations for Table 3 are as follows:

Total angler hours [using data from Winkel (2000: Appendix 2)]: the number of anglers in a party multiplied by the average hours fished.

Catch per unit effort (CPUE): the number of sturgeon caught divided by total angler hours.

Table 3. Catch per unit effort (CPUE) and related data by location for June-September 2000, as determined by creel survey.

Location	Total anglers	Total angler hours	Total sturgeon caught	CPUE (fish caught/hr)
Drowning Ford	5	15	1	0.067
Grand Forks	68	392	31	0.079
Koomati	4	216	1	0.005
Police Point Park	2	16	4	0.250
Railway Bridge	1	8	1	0.125
Rattlesnake Hole	15	163	7	0.043
Sandy Point	19	111	8	0.073
Strathcona	2	8	2	0.250
Total/Average:	**116**	**929**	**55**	**0.112**

According to the anglers, they also caught a total of 45 sturgeon in the year 2000 prior to the start of the survey. One was harvested. The minimum length of the 45 fish was 30.48 cm, the maximum 152.4 cm. Six anglers had measured the weight of their fish, while 38 extrapolated. The resulting minimum weight was 0.118 kg, the maximum 24.75 kg. The distribution of the number of sturgeon caught at each survey location is similar to those caught during the survey (Table 1). The majority of the 45 (16) were at Grand Forks, Sandy Point (9), Rattlesnake Hole (8) and Koomati (6).

5.0 DISCUSSION

5.1 Comparison of Findings with Annual Sturgeon Questionnaire

Of the 79 parties that indicated they fished for sturgeon, only 38 had at least one member who possessed a current sturgeon licence. This means that at least 52% of sturgeon angling is conducted without a licence. The actual figure may be even higher, since these data were collected as a function of angler party, instead of on an individual basis. On several occasions only one or two members of a larger group held a licence, while the entire party was angling for sturgeon. Since 256 licenses were sold this year (Wallman 1999), about 389 sturgeon anglers can be projected for the year 2000 fishery, provincially. Further, 40 of 79 (51%) parties indicated that they had never held a sturgeon license (even though some stated that they had fished for sturgeon in previous years). When this figure is considered in conjunction with the 56% of parties who indicated they fished for sturgeon more than once a year, it seems that the bulk of sturgeon angling activity is not represented in the annual questionnaire to sturgeon license holders.

Thirty-three angling parties indicated that they held a licence last year (1999), which represents 15% of the 221 total licences sold (Wallman 1999). Three (9%) indicated that they did not receive the questionnaire, while six (18%) admitted that they had received but did not return it. This figure is substantially lower than the 41% lack of response reported (Wallman 1999). This may reflect reluctance on the angler's part to admit failure to respond. It may also be attributed to the fact that there is a large amount of sturgeon angling which occurs from late August through October, which was not sampled in the present study. Disproportionate amounts of fishing by anglers holding sturgeon licences may occur during late summer and early fall.

In general, anglers appeared to recall more details when queried in person as opposed to in written answers on the questionnaire. Responses in the present study reflected time lapses of less than two months after capturing sturgeon, as opposed to six to eight months, in the case of the annual questionnaire. Anglers also appeared to give more complete answers in the survey. For example, many indicated that they had caught several sturgeon, however only recorded the largest in their response to the angling questionnaire. Many anglers also expressed surprise to learn that someone was actually interested in the information. The field survey may result in an increased and/or improved response to the upcoming questionnaire.

Angler residence, as determined in the survey, resembles the questionnaire results. The distribution of anglers from outside the study area may be explained by the time of year the survey was performed. Since the creel was conducted from June to September, and most local anglers from Southern Alberta indicate that they fish later in the year, this group may have been under-represented in the survey.

Twenty-eight of the 55 sturgeon captured (51%) during the present study were taken by unlicensed anglers. Therefore, it can be concluded that the actual numbers of sturgeon

caught annually are significantly higher than numbers estimated from the annual questionnaire. Timing of capture for the sturgeon (15 in the morning, 16 in the afternoon, 21 in the evening, 3 at night) could support angler contentions that sturgeon are most active in the evening or at night during high summer temperatures. Alternatively, this could simply reflect the times anglers choose to fish, as well as the fact that the staff most often surveyed in the afternoon and evening.

When comparing the average weight of the fish caught during the creel with those reported in the 1999 sturgeon questionnaire, 76% were under 10 kg (compared to 59% from the questionnaire), 16% between 10 and 15 kg (11%), 4% 15-19 kg (22%) and 4% 20-25 kg [7% (Wallman 1999)].

The distribution of sizes of captured sturgeon also reflects the pattern reported by anglers. Many small or medium-sized sturgeon (i.e., below the legal size limit) were angled from publicly accessible locations, whereas greater numbers of larger sturgeon were taken from the privately accessed spots (Table 1). However, these sites were not adequately represented in this survey.

Additional use of the fishery occurs through the activities of a local outfitter who specializes in sturgeon angling. None of the data in this survey were derived from that source.

This survey presented a much more varied and extensive picture of the sturgeon fishery along the South Saskatchewan River than can be gleaned from the provincial questionnaire. The realization that angling pressure may be more extensive than that which is indicated by licence sales is critical to the successful management of the fishery in the future.

5.2 Anglers Comments

Most anglers indicated that they did not have any comments concerning sturgeon angling. In some cases, this was attributed to a lack of experience (a number of parties indicated that they had only recently begun fishing for sturgeon). Anglers also offered a variety of observations about perceptions of the status of the fishery. Some anglers indicated that the sturgeon population was healthy and that their angling success had not declined, but others asserted that it had dropped off sharply and were concerned about population levels. This can be partly explained by the locations and type of fishing engaged in by respondents. A number of anglers had indicated that sturgeon angling had changed in the wake of a flood in 1995. Presumably, that flooding changed the configuration of the riverbed so that sturgeon did not necessarily frequent the same, traditional locations. This conjecture is supported by the fact that anglers who said their success had declined tended to fish from only one location and angled exclusively from shore. In contrast, those who indicated that they had not seen evidence of any change had fished from a variety of locations (both publicly and privately accessible) and combined float and shore fishing. The latter group also offered the opinion that while fishing success at the Grand Forks site

had changed, there was no alteration in their success at Rattlesnake Hole, or at any of the sites accessed via the Drowning Ford Grazing Lease.
A number of anglers also indicated that they would prefer sturgeon angling to be purely catch and release, or that the legal size limit should be increased. Some proposed a "slot limit" for keeping sturgeon, so that fish just smaller than reproductive size (less than 130 cm) would be harvestable, but not the larger or smaller sizes. A minority of anglers interviewed stated that they would like to see an increase in the number of fish to be kept in a year, or a decrease in the legal size limit. All of the anglers had questions about the current status of the sturgeon population.

A large percentage of the anglers interviewed complained about the heavy algal blooms that occurred in conjunction with low water levels in 2000. This concern is justified because of the impediment to angling it presented. It is not unique since similar concerns have been recorded for decades (Haugen, 1969).

5.3 General Information Concerning Sturgeon Angling

Comments made by anglers concerning the sturgeon fishery in the South Saskatchewan River were recorded [Winkel (2000)]. In summary, there was a very clear pattern of fishery use during the course of the year. Anglers who were not from the immediate vicinity (i.e., were from more distant locations including Calgary and Saskatchewan) usually held sturgeon angling licences and were fishing with the intent to harvest sturgeon of sufficient size. These anglers primarily fished during June-July at publicly accessible sites. Angling was exclusively conducted from shore. There was a lull in fishing during the middle of summer (late July – early August), with angling resuming in the middle of August. Local anglers were more prominent in late summer. The majority of local anglers did not possess a current sturgeon licence. They also indicated that they fished primarily with the intent to catch and release. Angling was conducted from more of the privately accessed locations and from a greater variety of locations. Non-local anglers tended to use one spot exclusively. Angling from boats or floats was also more commonly observed for local anglers. This pattern was supported by information provided by the anglers themselves. Non-local anglers interviewed in June and July indicated that they never fished later than the middle of summer, while local anglers stressed that the preferred time for sturgeon was during late August and September. These patterns account for the relative lack of success in contacting anglers at the privately accessed sites in this survey, because those areas are used primarily outside the time frame used for the present study.

According to anglers interviewed, the number of sturgeon caught this year was relatively low compared to other years. This may be attributed to two factors. First, the majority of angling apparently occurs later in the year. Secondly, extremely low water levels this year may also have affected catch success. Flow rates for the South Saskatchewan River did not approach average or even minimum historic flow rates during the entire course of the summer, and did not even display a hint of the peak usually seen in June (Stephen

Holgate, Natural Resources Service, Regional Technical Support Branch, Lethbridge, personal communication).

The unusually low water levels could provide a barrier to sturgeon movement. As a result, sturgeon may not have attained their usual levels of dispersion in the river. Normal behaviour patterns for sturgeon result in their use of backwaters and along banks in May and June. Movements into portions of the main channel (where depths are greater than 2 m) occur in July, where the fish remain throughout fall and winter (Haugen 1969). Concentration of the sturgeon in a few, isolated deeper spots this year may have rendered them inaccessible to angling from fixed locations along the shore.

5.4 Accuracy of Extrapolating Weights on the Basis of Lengths

Fourteen (25%) of the 55 sturgeon caught during the June to September survey period were measured for weight rather than being extrapolated. Additionally, for the time period before the creel, 6 (13%) of the 45 fish reported caught were also weighed. These numbers are insufficient to draw statistical conclusions about the validity of the length/weight table commonly employed.

6.0 RECOMMENDATIONS

In addition to collecting sturgeon data, the 2000 creel survey was intended to assess future harvest study designs. Suggested improvements include the following:

1. **Increasing the time span for data collection**: Since it appears local anglers primarily fish from late August into October, the creel survey should be extended into this time period.

2. **Increasing the number of creel staff during the weekend following the opening of the sturgeon season**: One individual is generally insufficient for adequate data collection for this survey. Angling levels and success are elevated immediately following the season opening in June (e.g. twelve of the total 55 sturgeon (22%) captured during the 2000 creel were caught between June 16 and 18 at the Grand Forks). Simultaneous monitoring of both ends of the study area by one person was not feasible, so that data collection only occurred at the Grand Forks during that time frame. Maximal data collection could be achieved by stationing one creel person at the Grand Forks while the other remains at Sandy Point.

3. **Increasing data collection for sites within the city of Medicine Hat**: Only one successful angling party was interviewed for each of the three locations within the city limits. This resulted in a sampling bias such that the CPUE (Table 3) for that area does not reflect true angling success when compared to other locations.

4. **Collection of license data on an individual basis, not by group**: This would enable more accurate comparison with the data from the questionnaire.

5. Estimation of the total time fished by every group and individual regardless if sturgeon are caught: This would provide a more accurate assessment of levels of angling pressure and success rates, and also reflect how time is reported on the fishing licence questionnaire.

6. Provide access to anglers on the water: A number of anglers could not be interviewed this year since they were not close enough to shore.

7. Include Griffin's Hole located at SE4-13-7 W4M: Local anglers cite this as a popular and productive sturgeon fishing location. It was not included in the 2000 creel survey because the landowner did not allow public access to the site until September.

8. Provide a pamphlet with sturgeon life history information: A one-page pamphlet could be easily compiled at minimal cost for distribution to interested anglers. Anglers asked numerous questions about sturgeon, but sometimes doubted their ability to remember the information without having it in writing. Copies of the length-weight table were given to anglers who requested it, and were received with enthusiasm. Providing further information may encourage people to participate in surveys.

9. Collect similar survey data in succeeding years: Comparing survey data and the questionnaire annually would indicate the accuracy of the questionnaire data. Additionally, weaknesses in the questions could be identified and corrected. For example, questions concerning the details of locations and dates fished should be included in the questionnaire. Concise data would allow for a much more accurate assessment of angling patterns.

10. Verify estimated harvest figures: Information obtained during the summer 2000 sturgeon creel survey, anecdotal observations by anglers, and comments from conservation officers all indicate that there is a need to verify harvest figures. Therefore, any future study should incorporate verification into the design. This may involve an increase in manpower within the creel survey or the introduction of mandatory registration of any sturgeon harvested.

11. Enforcement of license requirements: The 2000 creel survey revealed a general trend of non-compliance by some sturgeon anglers in regards to the required possession of a special sturgeon angling license. This needs to be investigated by conservation officer staff. Within the investigation, the provision of information accompanying the purchase of angling licences from private vendors needs to be addressed.

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Appendix 1: Sturgeon Creel Census Form

STURGEON CREEL CENSUS FORM

Location: _____ Recorder: _____
Date: _____ Time: _____ Page: _____ of _____
Weather: Cloud Cover: _____% Air Temperature _____C
Wind: Calm / Light / Moderate / Heavy Wind Direction: ____
PPT: Nil / Light / Moderate / Heavy Water / Ice Conditions: _____

ANGLER STATISTICS

Party #	No. of Anglers	Target Species	Sturgeon Angling History (including frequency)	Previous Catch		Length (cm)	Weight (lb.)	Survey response	Residency
				Year	Kept/Rel				

*Frequency = yearly, monthly, weekly

*Weight measured or estimated

*Comments about questionnaire on back

STURGEON CREEL SURVEY

Party #	# of Anglers	Hours Fished	Total Angler Hours	Time of day	Angling Method		Bait or Spinner	No. sturgeon caught/kept	Length (cm)	Weight (lb.)
					Boat	Shore				